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# Dairyland Power Cooperative's Methane Digester Projects

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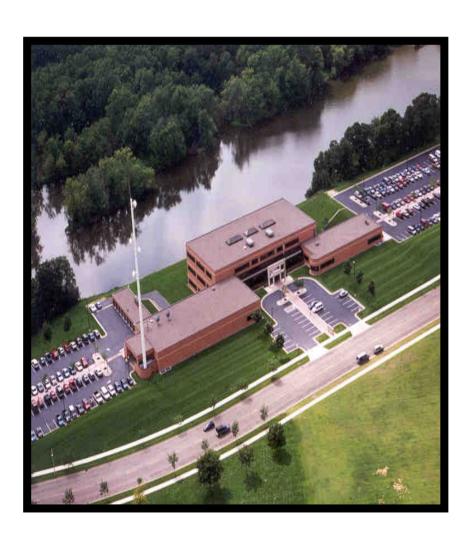


## **Dairyland Power Cooperative**

- Provides wholesale electricity for 25
  member cooperatives and 20 municipals,
  who in turn provide the energy needs of
  over a half-million people
- Service area covers 62 counties in four states – Wisconsin, Minnesota, Iowa and Illinois



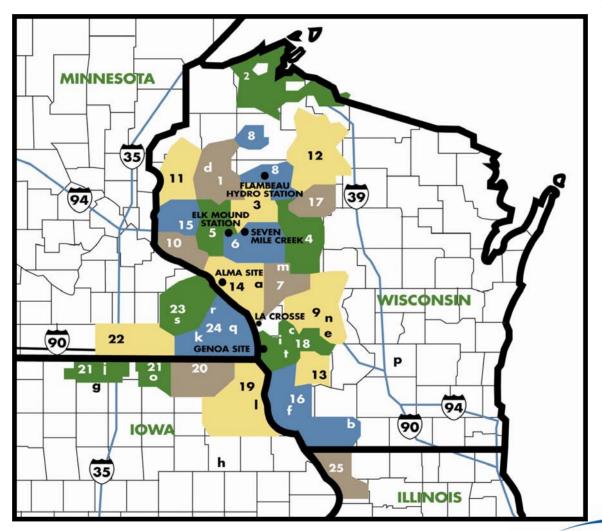
### **Quick Facts**



- Based in La Crosse
- Formed Dec. 1941
- 1,102 MW Generation
- 3,128 Miles of Transmission Lines
- 250 Substations
- 570 Employees



## **Dairyland Power Cooperative System**





## Renewable Energy Targets

- Wisconsin
  - Renewable Portfolio Standard
- Minnesota
  - Non-mandated Renewable Energy Objective
- •lowa
  - Mandatory Utility Green Power Option
- Illinois
  - Renewables Portfolio Goal



## Renewable Energy Resources



Wind Projects



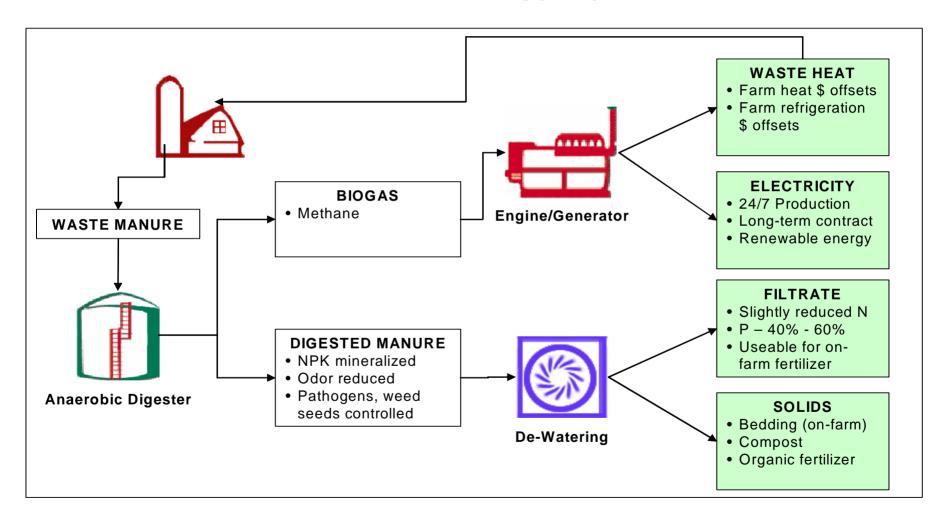
Waste-to-Energy Systems (Manure Digesters)



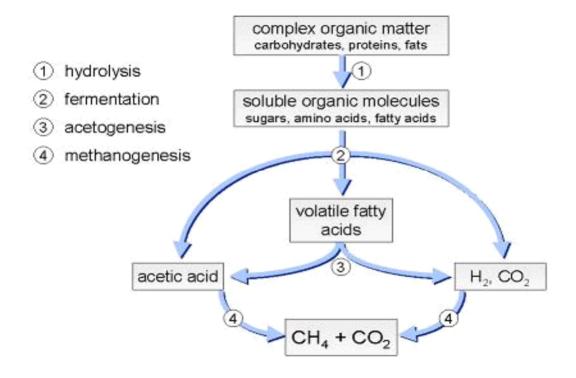
Landfill Gas-to-Energy Projects



#### Manure-to-Energy System



#### **Anaerobic Digestion 101**



## **Methane Digester Projects**

- Manure Digesters
  - Five Star Dairy -Elk Mound, WI on-line
  - Wild Rose -LaFarge, WI on-line
  - Norswiss Farms Rice Lake, WI on-line
- 0.775 MW each
- 6,000 MWh each annually







Five Star Dairy, Elk Mound, Wisconsin

DAIRYLAND POWER







Wild Rose Dairy, La Farge, Wisconsin



Norswiss Dairy, Rice Lake, Wisconsin

## Wind Energy

- Chandler Wind Farm
  - 1/3 of the output of the 2 MW farm
  - Approx. 2,200 MWh annually
  - Chandler, Minnesota
- McNeilus Wind Farm
  - 17.4 MW
  - Approx. 48,000 MWh annually
  - Adams, Minnesota
- Tjaden Wind Turbine
  - 0.45 MW
  - Approx. 700 MWh annually
  - Charles City, Iowa





## Landfill Gas to Energy Projects

- 7 Mile Creek Landfill Gas to Energy Project
  - 3 MW consisting of three 1,025 kW Waukesha engine/generators
  - 23,300 MWh annually
- Central Disposal Landfill, Lake Mills, Iowa
  - 4.8 MW consisting of six 800 kW Caterpillar engine/generatiors
  - 38,000 MWh annually
- Timberline Trail Landfill, Bruce, Wisconsin
  - 3.2 MW consisting of four 800 kW Caterpillar engine/generators
  - 25,000 MWh annually



## Questions?

